

## REMARKS/ARGUMENTS

### Claim Amendments

New claims 26 and 27, dependent on claim 11, have been added. Claim 26 has the same feature as paragraph (ii) of claim 21. Claim 27 has the same feature as claim 25, which is dependent on claim 21.

### The Rejections under 35 USC 103

Applicants respectfully traverse the rejection of claims 11-15 and 21-25 under 35 U.S.C. 103 as unpatentable over

- (1) EP 752378 (hereinafter "Scolaro") in view of
- (2) U.S. Patent No. 3,798,333 (hereinafter "Cummin"),  
or vice versa,  
both further in view of .
- (3) U.S. Patent No. 3,450,544 (hereinafter "Badran 544"),
- (4) U.S. Patent No. 3,450,542 (hereinafter "Badran 542"),
- (5) U.S. Patent No. 4,842,875 (hereinafter "Anderson"),
- (6) U.S. Patent No. 5,045,331 (hereinafter "Antoon 331") and
- (7) U.S. Patent No. 6,013,293 (hereinafter "De Moor"),  
further in view of newly added
- (8) Modern Packaging, 1966, 40, #2 (hereinafter Veeraju),
- (9) Proceedings of the International Conference on Controlled Atmosphere  
Packaging, 10/29/84 (hereinafter Rizvi),
- (10) Produce Marketing Almanac, 1987 (hereinafter Varriano-Marston),
- (11) CSIRO, 1984 (hereinafter Irving),
- (12) Revue Generale du Froid, 3/1974 (hereinafter Marcellin),
- (13) Journal of Experimental Botany, 10/74, volume 25, #88, pages 955-964  
(hereinafter Wade),

(14) Tropical Agriculture, 1940, volume XVII, #6, page 103+ (hereinafter Wardlaw),  
(15) Refrigeration Science and Technology, 1973, page 149+ (hereinafter Saguy),  
(16) Food and Food Ingredients, Japan, 1998 (hereinafter Urushizaki),  
(17) Annals of Botany, 1947, volume 11, #43 (hereinafter Leonard),  
(18) Proceedings Atmosphere Research 1989 (hereinafter Mannapperuna),  
(19) Food Technology, 9/1988 (hereinafter Zagory),  
(20) American Society of Agricultural Engineers, 1991 (hereinafter Emond),  
(21) International Journal of Food Science and Technology, 1988, (hereinafter Ballantyne), and  
(22) Horticultural Science, 1971 (hereinafter Hardenburg),  
insofar as those rejections can be understood.

## **General**

MPEP 2141 directs that the first step in determining whether claims are properly rejected under 35 USC 103 is to (A) determine the scope and content of the prior art, and (B) ascertain the differences between the prior art and the claims. The following comments are, therefore, made on the two primary references relied upon by the Examiner.

### **The first primary reference, Scolaro.**

In Scolaro, “unripe (green) fruit are kept, at room temperature and for a certain period of time, in bags with given characteristics of permeability to gas and aqueous vapor, filled with a modified atmosphere” (column 1, lines 53-57). The modified atmosphere is injected into the bag in place of the air, and contains “oxygen in a quantity ranging from 2% to 20% by volume, preferably from 2% to 6% by volume, carbon dioxide in a quantity ranging from 0% to 20% by volume, preferably from 6 to 13% by volume, ethylene in a quantity ranging from 0% to 3% by volume, preferably

from 0.1% to 1.5% by volume, the remainder being nitrogen" (column 2, lines 46-53). The resulting package "can be kept at room temperature for about 2, 3 months, during which time, "the composition of the modified atmosphere remains substantially constant" (column 3, lines 17-20). In Scolaro's only specific example, "one still unripe banana, or two or more bananas" are placed in a bag composed of low density polyethylene 35  $\mu$  thick and having a permeability to oxygen of 6800  $\text{cm}^3/\text{m}^2$  24hr atm, a permeability to carbon dioxide of 22,000  $\text{cm}^3/\text{m}^2$  24hr atm, and a permeability to ethylene of 22,000  $\text{cm}^3/\text{m}^2$  24hr atm (column 2, lines 54-57); these permeabilities were measured by ASTM-D1434 (column 3, line 1), probably at 25°C. The modified atmosphere injected into the bag comprises 2% by volume of oxygen, 8% by volume of carbon dioxide, 0.1% of ethylene and 89.9% of nitrogen (column 3, lines 3-6).

There are at least the following differences between Scolaro and claim 11: --

- (1) Scolaro does not disclose a container containing at least 4 kg of bananas.
- (2) Scolaro does not disclose a sealed container having an oxygen permeability at 13° C. per kg of bananas (OP13/kg) of at least 1500 ml/atmosphere .24 hours.
- (3) Scolaro does not disclose a packaging atmosphere which is substantially constant and which contains 14-19% O<sub>2</sub> and less than 10% of CO<sub>2</sub> with the total quantity of O<sub>2</sub> and CO<sub>2</sub> being less than 17%.
- (4) Scolaro does not disclose storing the sealed container at 13-18°C.

With regard to difference (1), there is no stated limit in Scolaro on the quantity of bananas or other fruit to be used. However, the only specific disclosure in Scolaro is for "one still unripe banana, or two or more bananas" in combination with a bag of 35 micron (0.035 mm) thick low density polyethylene film. A polyethylene film of such thickness is quite easily torn or punctured, and a bag made of such film becomes increasingly impractical as its size increases. As a result, a bag large enough to accommodate 4 or more kg of bananas would be impractical. It may be noted that the bags used in the Examples of the present application are almost twice as thick (0.056 mm -- see page 17, lines 10-18). It would of course be possible to use a bag of greater

thickness, and therefore greater strength, in Scolaro's procedure (Scolaro mentions a range of 22 to 50  $\mu$  at column 2, lines 44-35), but this would proportionately decrease the oxygen permeability of the bag, and still further emphasize difference (2), as discussed below.

With regard to difference (2), it should perhaps first be noted that the Examiner is mistaken in stating that the oxygen permeabilities of Scolaro cannot be related to those in the claim "because the units are entirely different." Scolaro's permeabilities are expressed in units of " $\text{cm}^3/\text{m}^2$  24hr atm" (which are of course the same as the units of " $\text{ml}/\text{m}^2$  24hr atm" used in the present application); such units can be multiplied by the area of the film to obtain the total oxygen permeability of the film; and the total oxygen permeability can be divided by the weight of the bananas to obtain the oxygen permeability per kg of bananas.

The only specific container disclosed by Scolaro is made of low density polyethylene film 35  $\mu$  thick and having an oxygen permeability of  $6800 \text{ cm}^3/\text{m}^2$  24hr atm at 25°C. As is demonstrated by the permeabilities for polyethylene films at 13°C and 22°C on page 17, lines 13-14 of this application, the oxygen permeability of polyethylene films at 13°C is about 63% of their oxygen permeability at 22°C; the reduction will be someone greater in relation to a permeability measured at 25°C., as in Scolaro. Scolaro does not give any dimensions for the bags that he uses, but taking Scolaro's Figure (which is approximately life-size) as a guide, it appears that in his specific example, Scolaro used a bag about 11 x 19 cm. in size. Such a bag has a total surface area of about  $0.042 \text{ m}^2$  (two surfaces each about  $0.11 \times 0.19 \text{ m}$ ) and (at the stated oxygen permeability of 6800 at 25°C) a total oxygen permeability at 25°C of about  $285 \text{ cm}^3$  /24 hours. At 13°C, the total oxygen permeability would be about 60% of this value, i.e. about  $171 \text{ cm}^3$  /24 hours. For a single banana, typically weighing about 0.2 kg, the OP13/kg would be about 855; for two or three bananas, the OP13/kg would be proportionately lower. For larger quantities of bananas, the bag would of course be larger, but for bags of the size appropriate for larger quantities, the reduction in the OP13/kg is still greater. As noted above, larger bags would also need to be made of thicker material, still further reducing the OP13/kg value.

With regard to difference (3), Scolaro discloses the use of an initial modified atmosphere which is thereafter maintained substantially constant. The widest disclosed range of oxygen content is 2 to 20%; the preferred content is 2 to 6%; and the only specifically disclosed content is 2%. There is no disclosure of the claimed range of 14-19% of oxygen.

There is at least the following additional difference between Scolaro and independent claim 21.

- (5) the container comprises a polyethylene bag and a control member as defined.

### **The Other Primary Reference, Cummin**

Cummin discloses a procedure in which bananas "are packaged as soon after picking as is practicable in a film having a ratio of permeability of carbon dioxide to permeability of oxygen of at least three" (column 1, lines 59-62). The film has "a permeability to oxygen of at least 1000 ml. /100 in.<sup>2</sup> 24hr atm at 23°C and a permeability to carbon dioxide of at least 3000, and a ratio of the permeabilities of carbon dioxide to oxygen of at least three" (column 2, lines 13-50, and 58-67). Preferably "the ratio of the surface area of the film per weight of bananas is from about 100 in.<sup>2</sup> to about 400 in.<sup>2</sup> per kg of bananas", preferably from 130 to 250 in.<sup>2</sup> per kg of bananas (column 2, lines 32-36). Preferably, "the bananas are gassed with ethylene prior to packaging to trigger the ripening process so that all of the bananas will ripen at about the same predetermined time" (column 2, lines 6-9). In all the specific Examples, three green and ethylene-treated bananas are placed on a polystyrene tray and wrapped with a polymeric film. In Examples I-III, the films had oxygen permeabilities of 2700, 2100 and 1900 respectively, and good results were reported. In Example IV, the film had an oxygen permeability of 1350 and indifferent results were reported. In Example V, the film had an oxygen permeability of 150, and poor results were reported.

There are at least the following differences between Cummin and claim 11.

- (1) Cummin does not disclose a container containing at least 4 kg of bananas.

- (2) Cummin does not disclose a packaging atmosphere which is substantially constant and which contains 14-19% O<sub>2</sub> and less than 10% of CO<sub>2</sub> with the total quantity of O<sub>2</sub> and CO<sub>2</sub> being less than 17%.
- (3) Cummin does not disclose storing the sealed container at 13-18°C.

With regard to difference (1), although Cummin does not place any explicit limit on the quantity of bananas, his specific Examples are limited to three bananas which are placed on a polystyrene tray.

With regard to difference (2), the atmosphere within Cummin's package will change after it has been sealed. However, even if the packaging atmosphere does pass through a state in which it contains 14-19% O<sub>2</sub> and less than 10% of CO<sub>2</sub> with the total quantity of O<sub>2</sub> and CO<sub>2</sub> being less than 17%, which is not admitted, there is no reason to suppose that such an atmosphere would be an equilibrium atmosphere as required by claim 11.

There is at least the following additional difference between Cummin and independent claim 21.

- (4) the container comprises a polyethylene bag and a control member as defined.

The Office Action does not comment on the differences, enumerated above, between the primary references and the independent claims. All of those differences have previously been noted in earlier Replies to earlier Office Actions. Applicant believes that those differences are indeed correctly stated. If the Examiner asserts otherwise, he is asked to identify the passages in the primary references which support that assertion.

### **The Secondary References.**

The MPEP makes it clear that, once differences between the primary references, and the claims have been identified, the burden is on the Examiner to establish a *prima facie* case under 35 USC 103 by demonstrating that it would have been obvious to one

of ordinary skill in the art, having regard to the secondary references, to modify the disclosure in the primary references in order to reach the claimed invention. The Office Action, rather than commenting on the specific differences identified by the Applicant, attempts to establish a *prima facie* case by means of general assertions which are alleged to be supported by the secondary references. Applicant submits that such general assertions cannot properly be relied upon, and, therefore, that no such *prima facie* case has been established; and that the rejections should therefore be withdrawn. Furthermore, as will be demonstrated below, the general assertions that formed the basis of the rejection are not in fact supported by the references.

The general assertions in the Office Action include the following: --

*(the secondary references) disclose that it was notoriously conventional to manipulate permeabilities, in accordance with a particular product, its weight, its respiration rates, the amount of product, packaging size, and temperature, to provide a reduced (relative to atmospheric) O<sub>2</sub> level and an increased (relative to atmospheric) CO<sub>2</sub> level to slow respiration of produce.*

and

*The preponderance of the evidence teaches that it was well established in the art, whether it is bananas or any other produce, that one can manipulate all of the known variables, including the particular produce, gas permeabilities of the packaging material, temperature, respiration rate, weight of product, etc. to provide atmospheres in the container which are low in O<sub>2</sub> relative to ambient (i.e. any O<sub>2</sub> concentration less than 20% --except less than 1% due to the disadvantages of an anaerobic condition) and high in CO<sub>2</sub> relative to ambient (i.e. a CO<sub>2</sub> concentration greater than say 1%).*

and

*Therefore, even if the references did not fairly suggest the recited range, which they do, the art taken as a whole would fairly teach one of ordinary skill in the art to carry out routine and obvious experimentation, and now analog modeling... to achieve optimum results in produce storage.*

However, full examination of the references leads to quite different conclusions. Thus, the secondary references make it clear that those of ordinary skill in the art had the following understandings.

- (1) The optimum storage conditions for one fruit or vegetable may be quite different from the optimum storage conditions for another fruit or vegetable, and may not be easily identified. For example, Varriano-Marston states

*Identifying the factors that determine the shelf life of fruits and vegetables is the first step in controlling deteriorative processes.*

and

*Package designed for controlling the atmosphere surrounding produce must take into account the optimum storage conditions... Therefore it is often necessary to conduct extensive laboratory studies to determine the optimum storage conditions before selection of packaging materials can be finalized.*

and

*Determination of the optimum storage conditions for any particular produce item can become quite complicated because of the number of variables to be evaluated.*

- (2) There are two distinct methods of controlling the atmosphere around a fruit or vegetable. In the first method, the desired atmosphere is simply imposed upon the fruit or vegetable by directly feeding a desired mixture of gases into the package. In this method, of course, precise control of the atmosphere is easily achieved, but supplies of the desired gases and control equipment are required. In the second method (which is of course the method used in the present invention), the objective is to produce the desired atmosphere by sealing the fruit or vegetable within a closed container which (sometimes through a distinct atmosphere control member, and/or through perforations) permits gas exchange between the interior of the container and the ambient atmosphere. It is much more difficult to achieve the desired atmosphere by the second method, because the gas exchange is governed by the permeability characteristics of the



container. For example, Rizvi, discussing the second method, and its relationship with theoretical calculations, states: --

***Conceptually**, it is thus possible to manipulate the film permeability to obtain the desired atmosphere around each produce to prolong the shelf life.* (Emphasis added)

and

(after presenting the theoretical basis for the estimation of transient and steady-state compositions around the produce). *However, great differences were noted between mathematically predicted and experimentally determined time values due to certain assumptions made in the theoretical solution.*

(3) When the second method is being employed, the predictability of suitable storage conditions, and the recognition and availability of materials to fulfill those conditions, both of which are assumed by the general assertions in the Office Action, do not in fact exist. For example,

Zagory states: --

*Although many plastic films are available for packaging purposes, relatively few have been used to wrap fresh produce. Even fewer have gas permeabilities that make them suitable to use for MAP.*

and

*Several workers have attempted to model the interactions between respiring produce and package atmosphere in an effort to put the design of MAP on an analytical basis... None of the models to date have been comprehensive and general enough to include all of the salient variables.*

Veeraju states: --

*Basing the area adjustment on literature values for respiration rates was not satisfactory.*

Turning now to the secondary references, the following comments will make it clear that they do not supplement the deficiencies of the primary references, as listed above.

The Office Action does not comment on Badran 542, Badran 544, Anderson, Antoon or DeMoor, except for a reference to "the reasons of record". Applicant has provided, in answers to previous Office Actions, detailed arguments why these references do not supplement the deficiencies of the primary references, and the Examiner has not answered those arguments, as required by the MPEP. Applicant incorporates those previously-filed detailed arguments in this response, and invites the Examiner, if any rejection based on those references is maintained, to explain why those arguments are not persuasive.

In summary, as previously stated, the primary references and these secondary references

*... consistently recommend an oxygen content far below the 14-19% range of claim 11 (2-5% in Anderson and Antoon 331; less than 7% in Badran 542; 1.4-10% in Badran 544; and 2-6% in Scolaro); and/or are not concerned with bananas (DeMoor); and/or make use of containers whose oxygen permeability is far below that required by claim 11 (Anderson, Antoon 331 and Scolaro).*

The Examiner has not questioned the accuracy of that earlier statement.

The following brief comments summarize the most relevant disclosure (or lack of disclosure) of these references.

### **Badran 542**

Like the present application, Badran 542 is concerned with the storage of pre-climacteric bananas at reduced temperature. Badran's objective is to ensure that "the internal gas contents of the bags, after an initial period, **can attain equilibria in the range of, by volume, from about 1 to 5.5% oxygen** and about 2.5 to about 7% carbon dioxide, with the carbon dioxide content higher than the oxygen content, which will be substantially maintained for a matter of up to about 28 days at a storage temperature between 53° and 70°F..." (column 3, lines 18-34).

As the Examiner correctly supposes (in an earlier Office Action), it is likely that at some transitory stage during the equilibration of the packaging atmosphere in Badran's

bags from the initial air to the desired equilibrium, the packaging atmosphere will be as defined in claim 11. But Badran teaches directly away from a substantially constant equilibrium atmosphere containing 14-19% oxygen, as required by claim 11.

#### **Badran 544**

Badran 544 is not concerned with pre-climacteric bananas. The only references in Badran 544 to bananas are to ripe bananas, for which the recommended equilibrium atmosphere is 1.4-2.4% of oxygen, which is, again, directly contrary to the requirement of claim 11 that the equilibrium atmosphere contains 14-19% oxygen.

#### **Anderson.**

Anderson discloses the use of a microporous membrane as an atmosphere control member for packaging fruits and vegetables. The only microporous membranes specifically disclosed have a carbon dioxide/oxygen permeance ratio (i.e. the quantity referred to in the present application as the R ratio) of about 1 -- in contrast to the requirement in claim 11 that this ratio should be at least 3. Claim 1 and column 2, lines 46-53, of Anderson require that the package should contain not more than 3.0 kg of the enclosed fruit, vegetable or flower -- in contrast to the requirement in claim 11 that it contains at least 4 kg of bananas.

#### **Antoon 331**

Antoon 331 is similar to Anderson, except that the panel controlling the flux of the container is composed of a nonwoven material coated with a water resistant resin. As in Anderson, Table 1, column 3, states that, for "bananas, ripening", the O<sub>2</sub> respiration rate is 44 cc of oxygen/kg.hr, i.e. 1056 (44 x 24) ml of oxygen/kg.24hr. For a package containing 3.0 kg of bananas, therefore, the total respiration rate will be 3168 (1056 x 3) ml of oxygen/kg.24hr. Table 3 also states that, for "bananas, ripening", the desired atmosphere is 2-5% O<sub>2</sub> and 2-5% CO<sub>2</sub>. Thus Antoon fails to disclose a container containing at least 4 kg of bananas, a sealed container having an oxygen permeability at 13° C. per kg of bananas (OP13/kg) of at least 1500 ml/atm.24 hours, a packaging atmosphere which is substantially constant and which contains 14-19% O<sub>2</sub> and less

than 10% of CO<sub>2</sub> with the total quantity of O<sub>2</sub> and CO<sub>2</sub> being less than 17%, or storing the sealed container at 13-18°C.

### **De Moor**

De Moor discloses a particular type of atmosphere control member. De Moor does not refer to bananas of any kind. Insofar as De Moor is of any relevance, which Applicant denies, the O<sub>2</sub> contents disclosed therein are below the 14-19% requirement of claim 11, namely 1-2% (column 1, line 49, for broccoli) and 5-8% (column 1, line 53, for cherries).

With regard to the 15 literature references now additionally relied upon, the Office Action provides a very brief assertion of the relevance of seven of those references (Wade, Wardlaw, Saguy, Urushizaki, Leonard, Ballantyne, and Hardenburg), and no comment at all on the other eight literature references. Applicant provides the following comments on those seven references, in order to make it clear that they do not supplement the deficiencies of the primary references. If, in a further rejection, the Examiner asserts that the remaining eight references contain relevant disclosure, Applicant will provide comments on those also.

**Wade** reports a study made of the changes in pre-climacteric bananas when exposed to ethylene derived from ethephon (2-chloroethyl phosphonic acid) in controlled atmospheres containing different percentages of oxygen (0, 1, 3, 6, 10, 15 and 21%). The response of the bananas to ethephon at 15% oxygen is stated to be "erratic". There is no disclosure of any system in which the bananas are stored in a sealed container whose permeance to gases controls the atmosphere within the container. The article does reach any conclusions about the appropriate conditions for the storage of pre-climacteric bananas, but the fact that the response of the bananas at 15% oxygen is "erratic" does not encourage the use of such a concentration of oxygen.

**Wardlaw** discloses experiments in which bananas are ripened in controlled atmospheres containing 7-12%, 6-12% and 8-12% oxygen, and also in an atmosphere controlled by restricted ventilation. In the restricted ventilation experiments, an atmosphere containing 14.5% oxygen was obtained, but it was noted that

*The difficulty of obtaining sufficiently low concentrations of oxygen by restricted ventilation alone becomes apparent in such experiments.*

This makes it clear that Wardlaw regarded a concentration of 14.5% oxygen as unsatisfactory. Consistent with this, at the end of Wardlaw, the conclusion is reached that.

*Collectively, the data obtained indicate that by using rapid cooling in conjunction with artificial atmospheres containing approximately 5% carbon dioxide and 5-7% oxygen, it should be possible to effect the overseas transport...*

This conclusion points directly away from the requirement in claim 11 for an oxygen content of 14-19%. As in Wade, there is no disclosure of any system in which the bananas are stored in a sealed container whose permeance to gases controls the atmosphere within the container.

**Saguy** is concerned only with the packaging of strawberries. It provides no useful guidance, therefore, about the storage of bananas.

**Urushizaki** refers to "apple fruits", "Chinese chive vegetables", "citrus sudachi", "potatoes" and "bananas". The 17% oxygen disclosure noted in the Office Action refers only to citrus sudachi. It provides no guidance, therefore, about the storage of bananas.

**Leonard** describes experiments in which bananas are placed in controlled atmospheres having a wide range of oxygen contents. No conclusions are reached about the optimum oxygen content for storage purposes. As in Wade and Wardlaw, there is no disclosure of any system in which the bananas are stored in a sealed container whose permeance to gases controls the atmosphere within the container. Furthermore, Leonard is careful to note that his experiments are carried out in the substantial absence of carbon dioxide; thus on page 301, Leonard states.

*This rate of draw-through had previously been found adequate to ensure a negligible accumulation of carbon dioxide in the respiration chamber.*

and again in the Summary on page 330

*... an atmosphere... containing various concentrations of oxygen, with carbon dioxide absent*

Since carbon dioxide is necessarily present in a sealed container whose permeance to gases controls the atmosphere within the container, Leonard cannot provide useful guidance for the atmosphere within such a container.

**Ballantyne** is concerned only with the packaging of broccoli. It provides no useful guidance, therefore, about the storage of bananas.

**Hardenburg** is concerned with the packaging of a number of different fruits and vegetables, but not with the packaging of bananas. It provides no useful guidance, therefore, about the storage of bananas.

### **The Experimental Results**

Applicant notes the Examiner's assertion that "the data set forth in the specification is more indicative of optimization rather than an unexpected result". However, the proper standard for determining whether the data in the specification supports the patentability of claims is simply whether the data is expected or unexpected, not whether it also is "indicative of optimization". Applicant submits that, having regard to the prior art, the experimental evidence in the specification shows that the claimed range of 14-19 % of oxygen (in combination with the other features of claim 11) achieves unexpected and valuable results.

Table 2 on page 23 of this application sets out the results of the experiments described in detail on page 22. In each of these experiments, 18.1 kg of green bananas were placed in a 38 x 50 inch bags of 2.2 mils thick polyethylene. In Example C34, the bags were left open. In Examples C31-33 and 3, the bags were sealed. The sealed bags included different atmosphere control members and, therefore, differed in the extent to which oxygen could enter the bag. The bags were maintained at 13°C for 36 days after packing, at which time half the sealed bags in each of Examples C31-33 and 3 were opened, and all the bags were placed in a commercial ripening room for about 24 hours (i.e. in an atmosphere containing ethylene at a concentration of 500 to 1000 ppm -- see page 14, lines 16-17). The bags of bananas were then stored until 49 days after packing, at which time the bags which were still sealed were opened, and the bananas inspected. As shown in Table 2, the oxygen content within the sealed bags 23

days after packing was 8.6% in Example C31, 9.8% in Example C32, 12.7% in Example C33, and 15.5% in Example 2; although not specifically so stated in Table 2, the oxygen content in the open bags of Example C34 was of course atmospheric, i.e. about 21%. The quality of the bananas, at the end of the tests, was excellent in the example of the invention (Example 3), in which the oxygen content was within the 14-19 % range of claim 11, but unsatisfactory in the comparative Examples, in which the oxygen content was lower (Examples C31-33) or higher (Example C34).

### **Continuation Application(s)**

For the record, Applicant notes that it is his intention to file one or more continuing applications to claim the aspects of the invention disclosed in this application and not specifically claimed in the present claims. In this connection, attention is directed to the eleven aspects of the invention disclosed in the Summary of Invention on pages 4-9 of the application, and the associated disclosure in the Detailed Description of the Invention, including the specific Examples, on pages 10-32 of the application

### **Request to Return Signed Information Disclosure Statements**

Applicant filed Information Disclosure Statements on 4/26/2002, 5/17/2002, 1/8/2003, and 5/13/2003, and, in response to the request in the Office Action mailed 3/30/2004, filed duplicate copies of those IDSs and documents (delivered directly to the Examiner as he requested) on or about 8/16/04 (as noted on page 1 of the Reply mailed 8/16/04). The Examiner is asked to sign and return the Information Disclosure Statements

### **CONCLUSION**

It is believed that this application is now in condition for allowance, and Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If,

however, there are any outstanding issues that could usefully be discussed by telephone, the Examiner is asked to call the undersigned.

Respectfully submitted

/T. H. P. Richardson/

T. H. P. Richardson

Registration No.28,805

Tel No. 650 854 6304

/James S. McDonald/

James S. McDonald

Reg. No. 44,229